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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MCKENZIE, THOMAS B

ART UNIT	PAPER NUMBER
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1776

NOTIFICATION DATE	DELIVERY MODE
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01/04/2012

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/583,999

Applicant(s)

SHIOMI ET AL.

Examiner

THOMAS MCKENZIE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-9 is/are pending in the application.
- 5a) Of the above claim(s) 2-6 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1 and 7-9 is/are rejected.
- 8) ☒ Claim(s) 9 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract objection is withdrawn in light of the amendments.

Response to Arguments

2. Applicant's arguments filed 11/10/2011 have been fully considered but they are not persuasive.
3. In the non-final Office Action dated 08/10/2011, **claims 1, 7 and 8-9** were rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al., US 5,779,267 (Jordan) in view of Koyama, JP-A No. No. 2001-171472 (Koyama).
4. On pages 7 and 8 of the Remarks, Applicant argues that Jordan in view of Koyama does not teach the thickness of the coating layer of copper in a filter made from a single, copper coated iron wire, is thicker at intersecting parts of the filter than the remaining portion of the single metal wire. The Examiner respectfully disagrees with Applicant's position. Similar to Applicant's invention, Koyama uses a heat treatment process to finish the filter (paragraphs 16 and 17). When using the copper coated wires of Jordan, the intersecting parts of the wire in the filter would have had a thicker copper coating than the remaining parts as molten copper will congregate into intersection parts due to surface tension.

Claim Objections

5. **Claim 9** is objected to because of the following informalities:
6. In **claim 9** "filer" as seen in the first line of the claim, should read "filter."
7. Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. **Claims 1, 7 and 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al., US 5,779,267 (Jordan) in view of Koyama, JP-A No. No. 2001-171472 (Koyama).

11. Regarding **claim 1**, Jordan substantially teaches:

12. A filter for a gas generator (figure 1, part 90; column 4, lines 23-29) comprising:

13. a knitted metal wire mat (column 4, lines 23-29) containing a coating layer of copper (column 4, lines 55-60),

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14. wherein the thickness of the coating layer on the metal wire is from 0.0003-0.015 inches (7.62-381 microns) (column 5, lines 14-19) which substantially reads on 0.5-10 microns as claimed.

15. In an analogous art of gas generator filters, Koyama substantially teaches a knitted, iron wire, mesh filter element formed from a single wire wound into a tubular shape and having intersecting parts of the single metal wire (paragraphs 9 and 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to use such a knitted mesh with Jordan in order to simplify the manufacturing process (Koyama, paragraph 7).

16. Please note that with this combination, the intersecting parts of Koyama (i.e. Drawing 2, part 20) would be firmly fixed via the coating layer (Jordan, column 4, lines 55-60) since the coating layer in Jordan is applied prior to knitting (column 4, lines 54-55). Additionally, please note that the thickness of the coating layer at the intersecting parts would be thicker than the remaining portion of the single metal, when the wire of Jordan is used with the filter arrangement of Koyama since the filter in Koyama undergoes a heat-treatment process after knitting (paragraph 16). This heating process would cause the copper to melt and concentrate at intersecting parts due to surface tension.

17. Additionally, please note that the Koyama reference cited is interpreted from a machine translation obtained from the JPO website. The detailed description and drawings of this reference are attached for the Applicant's convenience.

18. Regarding **claim 7**, Jordan substantially teaches:

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19. A gas generator for an air bag (figure 1, part 10; column 3, lines 17-20), comprising a housing having a gas discharge port (figure 1, parts 30 and 40; column 3, lines 25-26), an ignition means actuated by an impact (figure 1, part 56; column 3, line 31), a combustion chamber storing a gas generating agent that is ignited and burned by the ignition means to generate a combustion gas (figure 1, parts 45 and 62; column 3, lines 33-35 and lines 44-46), and a filter for filtering and cooling a combustion gas figure 1, part 90; column 3, lines 55-60), wherein the filter for a gas generator according to claim 1 is used.

20. Regarding **claim 8**, Koyama substantially teaches:

21. the tubular shape is obtained by winding the single wire on a perimeter of a cylindrical core material (paragraph 13). Please note, however, that the Examiner does not give this limitation weight since this limitation is directed to a method of manufacturing an apparatus rather than the structure of an apparatus.

22. The cited prior art teaches all of the positively recited structure of the claimed apparatus or product. The determination of patentability is based upon the apparatus structure itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113).

23. Regarding **claim 9**, Jordan in view of Koyama substantially teaches keeping the single metal wire wound into a tubular shape while heat treating (Koyama, paragraph

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16) wherein the thickness of the coating layer at the intersecting parts is thicker than the remaining portion of the single metal wire (as the heating process would cause the copper to melt and concentrate at intersecting parts due to surface tension). Although Jordan does not explicitly teach heating the tubular shape at a temperature not less than a melting point of the copper of the coating layer but less than a sintering temperature of the metal of the core wire so that the copper is melted and concentrates on the intersecting parts, and is then cooled, the Examiner does not give this limitation patentable weight since it is directed to a method of manufacturing the apparatus of **claim 1** rather than the structure of the apparatus (see MPEP § 2113).

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 7,452,397.

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS MCKENZIE whose telephone number is (571)270-5327. The examiner can normally be reached on Monday-Thursday 7AM-5PM.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/THOMAS MCKENZIE/
Examiner, Art Unit 1776

/Duane Smith/
Supervisory Patent Examiner, Art
Unit 1776

TBM